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Customer No.: 31561
Docket No.: 11184-US-PA
Application No.: 10/710,906

REMARKS

Present Status of Application

The Office Action dated September 26, 2006, rejected claims 1, 5-6, 8-11 and 19 under 35 U.S.C. §102(e) as being anticipated by James et al. (US Patent No. 6,969,918). Claims 2-4, 7 and 12-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over James et al. in view of Takahashi (JP 02-143816A). Claims 14 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al.. Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al. and Shikagawa et al. (US Patent No. 5,401,155). Claims 15-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al. and Masuda et al. (US Patent No. 4,862,246).

Claims 1, 2 and 14 have been amended to more clearly describe the claimed invention, according to the specification. Claim 10 has been amended for correcting informalities, while claims 11 and 19 have been cancelled. It is believed that no new matter is added by way of these amendments made to the claims, drawings, specification or otherwise to the application. Supporting grounds can be found at least in figures 1A-1B, 3-4, 5A-5B, 7, 8A, 9A and 10A. Entry of the above amendments is earnestly requested.

After carefully considering the remarks set forth in this Office Action and the cited references, Applicants respectfully submitted that the presently pending claims are in condition for allowance and such reasons will be discussed hereinafter. Reconsideration and withdrawal of these rejections are respectfully requested.

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Discussion for 35 USC§102 and 103 rejections

Claims 1, 5-6, 8-11 and 19 were rejected under 35 U.S.C. §102(e) as being anticipated by James et al. (US Patent No. 6,969,918). Claims 2-4, 7 and 12-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over James et al. in view of Takahashi (JP 02-143816A). Claims 14 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al.. Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al. and Shikagawa et al. (US Patent No. 5,401,155). Claims 15-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of James et al. and Masuda et al. (US Patent No. 4,862,246).

The Applicant has carefully considered the remarks set forth in the Office Action.

Claim 1 has been amended by merging the limitations of claims 2 and 11 and for providing further descriptions according to the specification. Supporting grounds can be found at least in Figures 1A-1B, 3-4, 5A-5B, 7, 8A, 9A and 10A. Claim 2 has been amended for clarification purposes, while claim 11 has been cancelled. Claim 10 has been amended for correcting informalities and claim 19 has been cancelled. Claim 14 has been amended and for providing further descriptions according to the specification. Supporting grounds can be found at least in Figures 1A-1B, 3-4, 5A-5B, 7, 8A, 9A and 10A.

Regarding the 102 rejections of independent claim 1:

The Office Action considered that James substantially disclose the present invention and James's top mold 42 U, bottom mold 42L, runner 96, cavity 86U and

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dummy runner 110L are comparable to the top mold, bottom mold, top runner, mold cavity and second dummy runner of this invention. However, the Office Action did not point out or specify the elements of James's that could possibly be comparable the first and second dummy mold cavities of the top mold as recited in claims 10-11.

Applicants respectfully disagree and traverse the rejections based on at least the following reasons.

James discloses a system 40 including an upper mold plate 42U and a lower mold plate 42L for molding the leadframe 46 (figure 2B). As shown in James 3A-3D, the upper mold plate 42U includes a plurality of upper mold cavities 86U to mold upper body segments 74, and upper dummy mold cavities 102U to mold the upper dummy segments 80 (figure 2D, col. 5, lines 48-56). Referring to James's figure 3C, the upper mold plate 42U includes inlet runners 96U connecting the upper mold cavities 86U, the connecting runners 100U for connecting adjacent pairs of cavities 86U and corner runners 106U. The upper mold plate 42U also includes dummy runners 110U configured to direct the mold compound 50 into the dummy cavities 102U (col. 6, lines 18-21).

As mentioned above, the Office Action failed to point out or specify the elements of James's that could possibly be comparable the first and second dummy mold cavities of the top mold as recited in claims 10-11. The Office Action merely pointed out that James's upper mold includes dummy cavities 102U.

As seem clearly from James's figure 3C, dummy cavities 102U are only connected to dummy runners 110U, but not connected to connecting runners 100U, inlet runners 96U or even the mold cavities 86U.

However, even if considering James's inlet runner 96U being comparable to the

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top runner of this invention, James fails to disclose either the first or the second dummy mold cavities of the top mold in this invention, because the dummy cavities 102U of James's are merely connected to the dummy runner 110U and are very different from "the second dummy mold cavities are connected to both ends of the top runner" as recited in amended independent claim 1 or "first dummy mold cavity connected to the mold cavities" as recited in claim 10.

Though not specified, the Office Action seems to consider James's segments 78, 118 and 80 as being reflecting three dummy cavities and thus being comparable to the dummy cavities of this invention.

As taught by James, segments 78, 118 and 80 were respectively molded by connecting dummy cavities 114L, dummy cavities 116L of the lower mold plate 42L and molded by upper dummy mold cavities 102U of the upper mold plate 42U (col. 5, lines 50-56; col. 7, lines 39-50). Therefore, as discussed clearly above, James's upper mold plate 42U merely includes one kind of dummy cavities (that is, upper dummy mold cavities 102U), which is distinct from the top mold of this invention.

Accordingly, the amended independent claim 1 clearly distinguishes the present invention over the cited reference James. Dependent claims 5-6 and 8-10 are submitted to be patentably distinguishable over the cited reference for at least the same reasons as independent claim 1, from which these claims respectively depend, as well as for the additional features that these claims recite.

As for the 103 rejections of claims 2-4, 7 and 12-13, the Office Action relied on Takahashi for teaching the additional features, including the dummy runner connected to the top runner, the extending direction of the dummy runner or the pot.

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As discussed above, James fails to disclose all the limitations recited in independent claim 1. Still, Takahashi cannot remedy the deficiencies of James. Especially, Takahashi fails to disclose or teach at least "the second dummy mold cavities are connected to both ends of the top runner" as recited in amended independent claim 1. Because all the cited references fail to teach, suggest or disclose each and every feature of the present invention, and therefore they cannot possibly arrive at the claimed invention, as suggested by the Office Action.

Applicants respectfully submit that claims 2-4, 7 and 12-13 patentably define over the reference James or Takahashi for at least the above reasons, and should be allowed.

Regarding the 102 rejections of independent claim 14:

James and Takahashi fails to teach, suggest or disclose that the second vertical rib and the second horizontal rib are aligned to the first vertical rib and the first horizontal rib in relation to the packaging substrate. More specifically, Takahashi only discloses that the ribs 20 17 are formed on the lower surface (figure 1), and James only discloses that the protrusions are formed by the dummy runners 110U, the runners 100U, and the inlet runners 96U filled with the molding. Therefore, the ribs in Takahashi or the protrusions in James are different form the ribs in amended claim 14 of the present invention.

Applicants respectfully submit that the amended claim 14 is allowable because James and Takahashi fail to teach, suggest or disclose every elements of the claimed invention as claimed in the amended claim 14. More specifically, James and Takahashi fail to teach, suggest or disclose that the second vertical rib and the second horizontal rib are aligned to the first vertical rib and the first horizontal rib in relation to the packaging substrate.

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For at least the foregoing reasons, Applicant respectfully submits that independent claim and 14 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 15-18 patently define over the prior art as a matter of law, for at least the reason that these dependent claims contain all features of their respective independent claim.

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CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date :

Dec 25, 2006

Respectfully submitted,

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